

# A new species of pipit in southern Africa

by Richard Liversidge

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The identification of the 43 species of pipits (Sibley 1994) of the genus *Anthus* remains fraught with difficulties. Sharpe (1885) drew attention to the emargination of the primaries as a method of identifying museum study skins to species. Shelley (1900) and Stark (1900) used the length of the hind claw as the first character in their keys for identifying pipits. More recently Hall & Moreau (1970) grouped plain-backed pipits separately from the streaked-backed pipits. Keith *et al.* (1992) have used a different system based on the length and emargination of the primaries as well as the colouring of the back. Needless to say, these museum methods are not of great help in field identification.

In the early 1990s it began to be noticed in the Kimberley area of South Africa that during the austral winter unusual pipits appeared in flocks of 10–40 birds, sometimes in mixed flocks with local pipits (Buffy Pipit *A. vaalensis*, Grassveld Pipit *A. cinnamomeus*, Long-billed Pipit *A. similis*). These flocks were observed on the playing fields of the town of Kimberley and on surrounding farms. It was assumed that the puzzling new birds might have been migratory Mountain Pipits *Anthus hoeschi* en route from the Lesotho highlands to Namibia and north.

In July 1994 two specimens of the new pipit were collected for identification. They were subsequently shown to Dr P. A. Clancey and Dr A. Berruti of the Durban Museum, who both expressed the opinion that they might well represent a new species and were certainly not Mountain Pipits. In August 1995 a further two specimens were collected at the same time as specimens of *A. vaalensis*, *A. similis* and *A. cinnamomeus* from the same field. Tissue samples from each were preserved for molecular analysis in an ongoing study of the genus *Anthus* by Gary Voelker of the Burke Museum, Seattle.

With four specimens it became possible to make a more detailed comparison of these birds with pipits known from the region. Their measurements and other characters showed that they were distinct from any other pipit. The birds were distinguishable in the field from other pipit species by their different stance and feeding behaviour. I propose to name them

## *Anthus longicaudatus* sp. nov.

*Syntypes*. MMK/B/2549, male, 7 August 1995, Kimberley, South Africa (to be housed in the McGregor Museum, Kimberley). MMK/B/2550, female, 7 August 1995, Kimberley, South Africa (to be presented to the Natural History Museum, Tring, U.K.).

*Paratypes* (to be housed in the McGregor Museum, Kimberley). MMK/B/2544, male, 13 July 1994, Kimberley. MMK/B/2545, female, 13 July 1994, Kimberley.

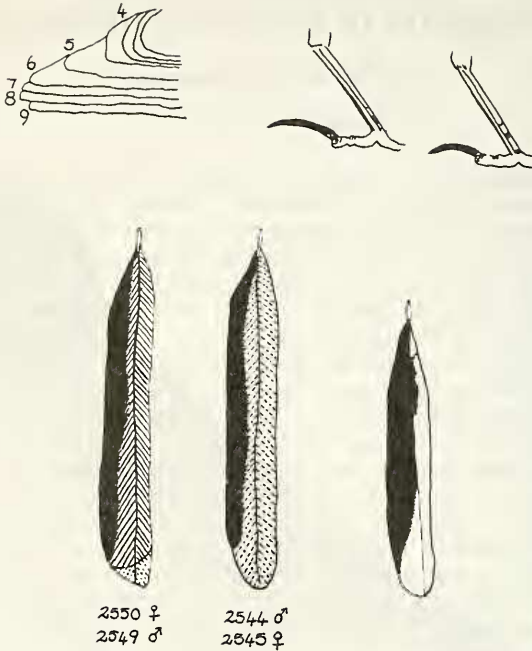


Figure 1. Upper left: wing-tip of *Anthus longicaudatus*, showing differences from *A. vaalensis* and *A. leucophrys* (9th primary equal to 6th and not same length as 7th and 8th as in those two species). Upper right: Hind claw of *A. vaalensis* (left) and *A. longicaudatus* (right). Below: Outer tail-feather of the syntypes (left) and paratypes (right) of *A. longicaudatus* (hatched=buff, spotted=cream-coloured), compared with the white-edged and tipped outer tail-feather of *A. cinnamomeus*.

All specimens were collected in Keeley Park (28°45'S, 24°47'E), within Kimberley, by C. Anderson, B. Wilson and R. Liversidge of the McGregor Museum. Samples of blood and tissues from the syntypes are preserved in buffer solution and are housed in the McGregor Museum and Burke Museum, Seattle.

*Diagnosis.* Distinguished from other similar pipits recorded in the Afrotropical region by the following characters. (1) Plain, darkish brown back. The only other two plain-backed pipits in the region have sandy brown (*A. vaalensis*) and rather olive-brown (*A. leucophrys*) backs; the latter is not known from the Kimberley area. (2) Distinguished from *A. vaalensis* and *A. leucophrys* also by its short hind claw (Fig. 1). (3) Distinguished from *A. vaalensis* and *A. leucophrys* by the length of the 9th primary, which is equal to the 6th primary, not to the 7th and 8th as in those two species (Keith *et al.* 1992). (4) Long, dark and 'heavy' tail with square end; pale outer tail margins (Fig. 1) conspicuous when shown but not always visible. (5) Horizontal stance and wagging of tail, reminiscent of wagtails *Motacilla*. Despite its longer tarsus, the length of the tail does not facilitate the upright stance

TABLE 1

Mean measurements (mm) of *Anthus longicaudatus*, the two plain-backed pipits *A. vaalensis* and *A. leucophrys*, and the two common pipits of the Kimberley area which have streaked backs, *A. similis* and *A. cinnamomeus*

	Mass (g) ♂, ♀	Wing ♂, ♀	Tail ♂, ♀	Tarsus ♂, ♀
<i>longicaudatus</i> (4)	31.8	106, 97.3	81.5, 81.5	32.0, 31.8
<i>vaalensis</i> (19)	27.0	106, 101	78.1, 74.1	30.1, 29.4
<i>leucophrys</i> (6)	23.2	97.2, 95.1	67.2, 64.0	30.6, 29.5
<i>similis</i> (10)	23.0	99.0, 93.6	71.3, 69.2	26.3, 26.4
<i>cinnamomeus</i> (10)	23.5	90.9, 86.0	62.5, 59.3	26.8, 25.7
	Bill			
	length ♂, ♀	width ♂, ♀	depth ♂, ♀	Hind claw ♂, ♀
<i>longicaudatus</i> (4)	15.3, 16.0	5.8	4.9	8-9
<i>vaalensis</i> (19)	19.4, 19.1	4.8	4.5	8-12
<i>leucophrys</i> (6)	18.7, 17.9	—	—	11-17
<i>similis</i> (10)	19.4, 19.0	5.1	4.4	7-11
<i>cinnamomeus</i> (10)	17.2, 16.7	5.1	—	11-15

TABLE 2

Relative proportions (based on mean male measurements, Table 1) of *Anthus longicaudatus*, compared with the four common pipits of the Kimberley area, accounting for the different impressions given by these five species in the field

	tail-length/ wing-length	wing-length/ mass	bill-length/ mass	hind claw length/ tarsus
<i>longicaudatus</i>	0.77	3.33	0.48	0.25
<i>vaalensis</i>	0.74	3.93	0.72	0.33
<i>leucophrys</i>	0.69	4.19	0.81	0.46
<i>similis</i>	0.72	4.30	0.84	0.34
<i>cinnamomeus</i>	0.69	3.87	0.73	0.49

that is characteristic of *A. vaalensis* (Keith *et al.* 1992). (6) Measurements greater than those of similar pipits (wing-length, tail-length, greater body mass). The bill, however, is appreciably shorter than in some other pipits (Table 1). In comparison with the other local pipits with which it associates, it is generally a darker brown bird with a heavier build, and also has a less upright stance. The underparts are paler buff than in *A. vaalensis*, with darker flanks; the streaking on the breast present but variable.

*Voice.* Distinct from that of other pipits in the area. A single note is uttered when flying off. Sonagrams made from tape-recordings, while not of high quality, show that this note has a frequency range of 3.8-5.8 kHz, and is uttered at intervals of *c.* 1.6 sec. The other two

plain-backed pipits have a dissyllabic call note. The call notes and songs of *A. vaalensis*, *A. cinnamomeus*, *A. similis* and *A. leucophrys* were played without eliciting any response from the new species. The first three of the above-mentioned species responded to varying degrees to recorded calls of their own species.

*English name.* I suggest Long-tailed Pipit, in recognition of its most obvious structural character.

#### *Comparison of size and proportions with other African pipits*

Table 1 shows the mean measurements of *Anthus longicaudatus* compared with those of the two plain-backed pipits *A. vaalensis* and *A. leucophrys*, and the two other common pipits of the area which have streaked backs, *A. similis* and *A. cinnamomeus*. Table 2 summarises the relative proportions of these five species. From these figures it can be seen that the pipit nearest *longicaudatus* in measurements is *A. vaalensis*, but the bill is shorter and heavier, and the hind claw appreciably shorter in the new species. The tail, although not much longer in measurement, gives the impression in the field of being longer; it is broad and square at the end, not narrow and rounded as in *vaalensis*.

A comparison of the new pipit with the information from Clancey (1990) and Keith *et al.* (1992) for all the African species of *Anthus* (these two authorities do not recognise the same number, as two recognised by the former are considered races by the latter) brings out the following points.

*Mass.* *A. lineiventris* is the only pipit that is heavier; *campestris* is as heavy, and *vaalensis* and *hoeschi* are almost as heavy. Of these only *vaalensis* is plain-backed.

*Wing-length.* *A. vaalensis* is similar in length; all others are shorter. Keith *et al.* (1992) give the general measurement of male *vaalensis* as 102–110 mm, but for *A. v. neumanni* (the largest race according to Clancey 1990) they give 94–101 mm; for *neumanni* Clancey gives 100–108 mm.

*Tail-length.* All other pipits have shorter tails. That of *vaalensis*, the nearest, is *c.* 3.5 mm shorter; the next is *similis* which is *c.* 10 mm shorter.

*Tarsus-length.* *A. pallidiventris* is the only pipit with a longer tarsus; it is plain-backed too, but its wing is *c.* 7 mm shorter, tail *c.* 12 mm shorter, bill *c.* 4.7 mm longer and hind claw *c.* 5 mm longer.

*Bill-length.* Only the smaller pipits, *caffer* and the Palearctic migrants *pratensis* and *cervinus*, have bills of similar length.

The tail/wing ratio shows why the Long-tailed Pipit appears long-tailed in flight. The low ratio of wing-length to mass suggests heavy flight (and perhaps that the species is not a long-distance migrant). The very low ratio of bill-length to mass accords with the observation that this species forages with its head much closer to the ground than the other species. The very low ratio of hind claw length to tarsus suggests that the new species is adapted to shorter-grassed or bare terrain, whereas the other species prefer moister conditions.

#### *Breeding and migratory status*

All birds collected were in fresh plumage, which suggests that a post-breeding moult had recently been completed. The gonads were

minute. The fact that they were usually seen in flocks would indicate that they were migrants. They all had subcutaneous fat and internal fat layers in the body cavity. It is not known from where they had come, but it seems likely to have been from somewhere north of Kimberley.

#### *Concluding remarks*

This new species appears already to have caused some confusion in the literature. The most recent field guide to birds of the region, *Sasol Birds of Southern Africa* (Sinclair *et al.* 1993), states for the Buffy Pipit *A. vaalensis*: "on the ground behaves like a wagtail, stops often and moves its tail up and down". This is a good description for the Long-tailed Pipit. All other published descriptions of the Buffy Pipit include a statement that it typically stands bolt upright (e.g. Keith *et al.* 1992, Maclean 1993). Unfortunately the illustration in Sinclair *et al.* (1993) is stylised, as is Clancey's (1990), and does not show the natural upright stance of the Buffy Pipit, well illustrated in Newman (1983). The difference of stance and feeding behaviour between the Long-tailed and Buffy Pipits makes it very easy to distinguish between them in the field. Plate 2 gives an accurate impression of the bird's appearance, based on the collected specimens and field sketches.

The author feels confident of the allocation of this pipit to a new species, but much more needs to be found out. In the Kimberley area the bird is now becoming locally well known. It seems desirable to name it formally, and to alert ornithologists in this and adjacent regions to the possible occurrence of migratory or breeding individuals. It is hoped that a fuller account will eventually be published, including DNA comparisons with other pipits.

#### **Acknowledgements**

I would like to thank Dr P. A. Clancey and Dr A. Berruti for their initial suggestions about the new species; M. Anderson and Dr W. Sinclair, who joined in some of the original observations and agreed that this pipit was not one known from our region; C. Anderson and B. Wilson for assistance in collecting and preparing the specimens; Jill Adams for a fine illustration; David Snow for editorial help; and Gary Voelker for comments.

#### References:

- Clancey, P. A. 1990. A review of the indigenous pipits (Genus *Anthus* Bechstein: Motacillidae) of the Afrotropics. *Durban Mus. Novit.* 15: 42-72.
- Hall, B. P. & Moreau, R. E. 1970. *An Atlas of Speciation in African Passerine Birds*. British Museum (Nat. Hist.), London.
- Keith, S., Urban, E. K. & Fry, C. H. 1992. *The Birds of Africa*. Vol. 4. Academic Press.
- Maclean, G. L. 1993. *Roberts' Birds of Southern Africa*. Trustees John Voelcker Bird Book Fund, Cape Town.
- Sharpe, R. B. 1885. *Catalogue of Birds in the British Museum*. Vol. 10. British Museum, London.
- Shelley, G. E. 1900. *The Birds of Africa*. Vol. 2. London.
- Sibley, C. G. 1994. *Birds of the World*. Thayer Birding Software.
- Sinclair, I., Hockey, P. & Tarboton, W. 1993. *SASOL Birds of Southern Africa*. Struik, Cape Town.
- Stark, A. C. 1900. *The Birds of South Africa*. London.

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